

CLAIMS

1. A DNA encoding a plant-derived protein whose deletion of function causes an increase in the particle-bearing number of a plant, wherein the DNA is any one of (a) to (d):
 - 5 (a) a DNA encoding a protein comprising the amino acid sequence of SEQ ID NO: 3;
 - (b) a DNA comprising a coding region comprising the nucleotide sequence of SEQ ID NO: 1 or 2;
 - (c) a DNA encoding a protein comprising the amino acid sequence of SEQ ID NO: 3, wherein one or more amino acids have been substituted, deleted, added, and/or inserted; and
 - 10 (d) a DNA that hybridizes under stringent conditions with a DNA comprising the nucleotide sequence of SEQ ID NO: 1 or 2.
2. The DNA of claim 1, wherein the DNA is derived from rice.
- 15 3. A DNA encoding an RNA complementary to a transcript of the DNA of claim 1 or 2.
4. A DNA encoding an RNA having ribozyme activity that specifically cleaves a transcript of the DNA of claim 1 or 2.
- 20 5. A DNA encoding an RNA that suppresses the expression of the DNA of claim 1 or 2 by cosuppression effects at the time of expression in plant cells.
6. A vector comprising the DNA of any one of claims 1 to 5.
- 25 7. A host cell transfected with the vector of claim 6.
8. A plant cell transfected with the vector of claim 6.
9. A transformed plant comprising the plant cell of claim 8.
- 30 10. A transformed plant that is an offspring or a clone of the transformed plant of claim 9.
11. A reproductive material of the transformed plant of claim 9 or 10.
- 35 12. A method for producing a transformed plant, wherein the method comprises the steps of introducing the DNA of any one of claims 1 to 5 into a plant cell, and regenerating a plant body

from said plant cell.

13. A protein encoded by the DNA of claim 1 or 2.

5 14. A method for producing the protein of claim 13, wherein the method comprises the steps of culturing the host cell of claim 7, and collecting a recombinant protein from said cell or from a culture supernatant thereof.

15. An antibody that binds to the protein of claim 13.

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16. A polynucleotide comprising at least 15 continuous nucleotides that are complementary to the nucleotide sequence of SEQ ID NO: 1 or 2, or a complementary sequence thereof.

15 17. A method for increasing the particle-bearing number of a plant, wherein the method comprises the step of expressing the DNA of any one of claims 3 to 5 in the cells of a plant body.

18. An agent for changing the particle-bearing number of a plant, wherein the agent comprises the DNA of any one of claims 1 to 5 or the vector of claim 6 as an active ingredient.

20 19. A method for determining the particle-bearing number of a plant, wherein the method comprises the steps of:

- (a) preparing a DNA sample from a test plant body, or a reproductive medium thereof;
- (b) amplifying a region of said DNA sample corresponding to the DNA of claim 1; and
- (c) determining the nucleotide sequence of the amplified DNA region;

25 wherein the plant is determined to be a variety having a small particle-bearing number when the nucleotide sequence encodes a protein whose deletion of function causes an increase in the particle-bearing number of a plant, and the plant is determined to be a variety having a large particle-bearing number when said protein is not encoded.

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